Closed Rotating Biological Contactors in Nitrate Removal – Operating Parameters and Biofilm Efficiency.

Rosário Oliveira, IBB – Institute for Biotechnology and Bioengineering, Centre for Biological Engineering, University of Minho, Campus de Gualtar, 4710 – 057 Braga, Portugal (roliveira@deb.uminho.pt)

Rotating Biological Contactors (RBC) constitute a very unique and superior alternative for biodegradable matter and nitrogen removal on account of their feasibility, simplicity of design and operation, short start-up, low land area requirement, low energy consumption, low operating and maintenance cost and treatment efficiency, as well as easy scalability. A new generation of RBC, working in anoxic conditions (closed/AnRBC) has been developed, mainly for nitrate removal. Operating parameters like C/N ratio, phosphorous concentration, organic and hydraulic loading rates and retention time, directly affect biofilm efficiency. The effect of these parameters on nitrate removal efficiency will be focused herein.